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10/736,545	12/17/2003	Masahiro Kawaguchi	03500.017338	6817

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EXAMINER	
LIU, SUE XU	

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1639	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/736,545	KAWAGUCHI ET AL.	
	Examiner	Art Unit	
	Sue Liu	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,6,7 and 28-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2, 6, 7 and 28-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/30/07 has been entered.

Claim Status

2. Claims 1, 3-5, and 8-27 have been canceled as filed on 9/10/07.

3. Claim 30 has been added as filed on 10/30/07.

Claims 2, 6, 7 and 28-30 are currently pending.

Claims 2, 6, 7 and 28-30 are being examined in this application.

Election/Restrictions

4. Applicant's election of Group II (Claims 2-7) in the reply entered on 11/14/2005 was previously acknowledged.

5. Applicants also elected the following species as previously acknowledged:

A.) fluorescent markers;

B.) two kinds of external standard probes;

C.) one kind of internal standard probes;

D.) single-stranded DNA;

E.) 20 residues each of internal and external probes;

F.) two sets of primers that will produce 500 bp and 200 bp products;

G.) a "microorganism'" is selected as the most specific species explicitly recited in the specification;

H.) one nucleic acid;

I.) two.

Priority

6. This application appears to be a CONTINUATION of PCT/JP03/07918 filed on 6/23/03.

Receipt is acknowledged of the following papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file:

A.) An application filed in JAPAN (2002-191390) on 6/28/2002.

B.) An application filed in JAPAN (2002-183249) on 6/24/2002.

Claim Rejections Maintained

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(Note: the instant claim numbers are in bold font.)

Dudley et al

8. Claims 2, 6, 7 and 28-30 are rejected under 35 U.S.C. **102(b)** as being anticipated by Dudley et al (PNAS. Vol. 99: 7554-7559. May 28, 2002 (cited previously) and the accompanying "Supplementary Material" downloaded from //arep.med.Harvard.edu/masliner/supplement.htm). The previous rejection over claims 2, 6, 7, 28 and 29 is maintained for the reasons of record as set forth in the previous Office action. The rejection over claim 30 is necessitated by applicant's amendment to the claims.

The instant claims briefly recite "a DNA micro-array for detecting nucleic acid molecules having target base sequences in a samples, said array comprising:

a substrate; and

nucleic acid probes including base sequences complementary to the target base sequences, the nucleic acid probes being immobilized on the substrate,

wherein the array contains at least two probes for internal standard nucleic acids, said at least two probes having different sequences from each other and having sequences complementary to the internal standard nucleic acids,

wherein said at least two probes are available *for quantitative evaluation of PCR of said nucleic acid molecules having the target base sequences,*

wherein said at least two probes include at least two probes *corresponding to PCR products with different chain lengths derived from the internal standard nucleic acids*, and

wherein the DNA micro-array is configured such that *the internal standard nucleic acids are added at a known amount to the sample at the time of PCR amplification of said nucleic acid molecules having the target base sequences.*"

The instant claim 2 (the independent claim) recites a product of a DNA microarray comprising the following structural elements: a substrate, nucleic acid probes immobilized on the substrate for target base sequences, and nucleic acid probes immobilized on the substrate for "internal standard nucleic acids", as indicated by the underlined region in the above claim citation.

The above claim recitations in *Italic* such as "quantitative evaluation of PCR" and "*the internal standard nucleic acids are added at a known amount to the sample at the time of PCR amplification"* are construed as intended use for the claimed product of a DNA microarray. For example, the newly added recitation, "the internal standard nucleic acids are added at a known amount to the sample at the time of PCR amplification", which appears to recite a method step and does not provide additional structural limitation to the claimed product of a microarray.

In addition, the specification of the instant application discloses the internal standard probe as "a probe for detecting an internal standard nucleic acid to be used to assist quantitative determination of a target nucleic acid," and the internal standard nucleic acid as "a nucleic acid of a known base sequence" (page 12 of the specification). The external standard nucleic is also disclosed as "a nucleic acid having a known base sequence to be added to a sample..." and "has no base sequence homology to the base sequence of the target nucleic acid." Therefore, the

internal standards and probes could be interpreted, for example, to be any nucleic acid sequences that are known.

Dudley et al, throughout the publication, teach measuring absolute expression with microarrays with a calibrated reference sample, and generating ratios between sample intensities and intensities of the oligo reference measure sample RNA levels (See Abstract of the reference). The reference teaches microarrays comprising probes generated from yeast ORF PCR product set, and an oligo reference sample with certain nucleic acid sequence (See page 7554, right column, 4th paragraph of the reference). The yeast ORF PCR product set contains over 6,000 yeast ORF (see the "Supplementary Material" (p. 9 of Supp.) described on p. 7555, left column, last paragraph of the reference), which could contain the "target nucleic acid" (could be any yeast gene of interest from the >6,000 ORF PCR products). The oligo reference sample could be either the "internal" or "external" probes for the internal or external standards since the oligo sequence is known and contained on the microarray. In addition, any other probes for the >6,000 genes that is not the considered to be the gene of interest (the target gene) and is not complementary to the target gene sequence could be considered as either the internal or the external probes. For example, the RPL29, or the PHO88 genes listed in Figure 3 on Page 7557. The probes for these genes on the microarray would hybridize to genes with different PCR products (different lengths). The reference further teaches that the microarray are generated either by printing PCR generated cDNA or commercially available oligo sets (See Supplemental Web Site as described on Page 7555, left column, last paragraph of the reference; see also the Supplementary Figure 4), which read on the various nucleic acid probes immobilized on the

substrate, and different sequences placed at different positions of **clm 2** as well as the "more than one probe" of **clm 30**. In addition, the reference teaches the oligo reference sample is 20 bases long (page 7554, right column, 4th paragraph of the reference), which would refer to nucleic acid has a chain length of 15 to 75 bases, as recited in **clm 7**. The reference further teaches the Yeast Genome Oligo Set were printed at a concentration of 10 pmols/ml in 150 mM potassium phosphate (See Supplemental Web Site as described on Page 7555, left column, last paragraph of the reference), which reads on probes with the same concentration of **clm 29**. The reference also teaches that the microarray are generated either by printing PCR generated cDNA or commercially available oligo sets (See Supplemental Web Site as described on p. 7555, left column, last paragraph of the reference), which reads on the synthetic nucleic acids immobilized on the substrate as recited in **clm 6**. The reference also teaches resuspending the various PCR products in 150 mM potassium phosphate before immobilized on the substrate (Supplemental Material, p. 9), which reads on "spots having different concentrations" of **clm 28**.

The probes (or "internal probes") taught by the reference also reads on the inherent property of "corresponding to PCR products with different chain lengths" as recited in **clm 2** and **clm 30**, because the probes can hybridize to target molecules with different chain lengths. For example, a probe on the array with 20 nucleotides complement to a target molecule with 30 nucleotide length (comprising the 20 nucleotide complement to the probe) would also be complement to a target molecule with 40 nucleotide length (comprising the same 20 nucleotide complement to the probe).

Furthermore, the reference also teaches probes that do not hybridize to any nucleic acid molecules in the sample as indicated by the dim spots (which probes were not hybridized to any

sample nucleic acids) on the array (see, for example, Supplement, Figures 3 and 4), which reads on the "does not hybridize" recitation of **clm 30**.

Discussion and Answer to Argument

9. Applicant's arguments have been fully considered but they are not persuasive for the following reasons (in addition to reasons of record). Each point of applicant's traversal is addressed below (applicant's arguments are in italic):

Applicants argue the reference does not teach every element of the claimed invention. (Reply, p. 4, para 3+). Applicants specifically assert that the reference does not teach the feature of "the DNA micro-array is configured such that the internal standard nucleic acids are added at a known amount to the sample at the time of PCR amplification of said nucleic acid molecules having the target base sequences". (Reply, p.4, para 3).

Applicants are respectively directed to the above rejection for detailed discussion on how the cited reference teach each and every element of the instant claimed invention.

In response to applicant's argument that the reference does not teach the feature, "*the DNA micro-array is configured such that the internal standard nucleic acids are added at a known amount to the sample...*", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In the instant case, the above said claim recitation of "*the internal standard nucleic acids are added at a known amount to the sample at the time of PCR amplification...*" are construed as intended use for the claimed

product of a DNA microarray. The feature "internal standard nucleic acids" is not a structural part of the claimed array, but it is a part of the "sample" for which the claimed array can act upon. Similarly, the "PCR amplification" recitation is reciting a method step, which does not result in a structural difference to the instant claimed array. That is the recitation of "the internal standard nucleic acids are added at a known amount to the sample at the time of PCR amplification..." only recite a method step and does not provide additional structural limitation to the claimed product of a microarray. Thus, the microarray of the reference is structurally the same as the instantly claimed microarray, and is capable of performing the recited intended uses without evidence to the contrary.

Applicants also state "separate and individual consideration of each dependent claim in respectfully requested". (Reply, p.4, para 5).

Applicants are respectively directed to the above discussion as well as previously mailed Office action (e.g. mailed 10/18/07), where each pending claim was considered and discussed in detail in light of the cited references.

Delenstarr et al

10. Claims 2, 6, 7, and 28-30 are rejected under 35 U.S.C. **102(b)** as being anticipated by Delenstarr et al (US PGPUB 2002/0051973 A1; May 2, 2002; cited previously). The previous rejection over claims 2, 6, 7, 28 and 29 is maintained for the reasons of record as set forth in the

previous Office action. The rejection over claim 30 is necessitated by applicant's amendment to the claims.

Delenstarr et al, throughout the publication, teach a set of features comprising oligophophodiester probes (reads on microarrays of **clm 2**; Claim 1 of the reference). The reference teaches hybridization features comprising hybridization probes (bound to a surface; Claim 2 of the reference) that selectively hybridize to a detectably labeled target nucleotide sequence (reads on the probes for the target nucleic acid of **clm 2** as well as probes of **clm 30**; Claim 1 of the reference). The reference also teaches background features comprising background probes (as listed in Claim 4 of the reference) that do not selectively hybridize to said nucleotide sequence (read on the internal probes of **clm 2** or the probes of **clm 30**; Claims 2 and 4 of the reference). In addition, the reference teaches the features (or array) comprising target probes, test-background probes (read on either internal probes of **clm 2**), and standard-background probes (read on internal probes of **clm 2**); (See Claim 30 of the reference). The reference also teaches the probes could be 25 bases long (such as SEQ ID NO 5 as recited in Claim 5, for example), which reads on the length recited in **clm 7**. Furthermore, the reference recites various different probes with different sequences (such as the one directed in Claim 5 of the reference), which have the functions of hybridizing to PCR products with different chain lengths. The reference further teaches that the probes can be synthesized (See paragraph [0104] of the reference), which reads on limitation of **clm 6**. The reference also teaches the concentration of different probes on the microarray (e.g. Example 6, p. 15+; especially p.11), which reads on the spots having the same or different concentrations of **clms 28 and 29**.

Furthermore, the reference also teaches probes that do not hybridize to any nucleic acid molecules in the sample as indicated by the dim spots (which probes were not hybridized to any sample nucleic acids) on the array (see, for example, Figures 3 and 7), which reads on the "does not hybridize" recitation of **clm 30**.

The probes (or "internal probes") taught by the reference also reads on the inherent property of "corresponding to PCR products with different chain lengths" as recited in **clm 2**, because the probes can hybridize to target molecules with different chain lengths. For example, a probe on the array with 20 nucleotides complement to a target molecule with 30 nucleotide length (comprising the 20 nucleotide complement to the probe) would also be complement to a target molecule with 40 nucleotide length (comprising the same 20 nucleotide complement to the probe). In other words, the recitation "corresponding to PCR products with different chain lengths" does not offer any additional structural limitation to the claimed probes.

Discussion and Answer to Argument

11. Applicant's arguments have been fully considered but they are not persuasive for the following reasons (in addition to reasons of record). Each point of applicant's traversal is addressed below (applicant's arguments are in italic):

Applicants traversed the above rejection with the same argument as the traversal over the Dudley reference. Thus, applicants are respectively directed to the discussion under the Dudley reference for answer to arguments

New Claim Rejections

Claim Rejections - 35 USC § 112

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claim 30 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 recites the limitation "the probe" in line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim. It is not clear to which probe the said term "the probe" in line 4 is referring. The instant claims 2 and 30 recite:

a.) "probes" that are complementary to the target base sequences";

b.) "probes for internal standard nucleic acids";

c.) "more than one probe which does not hybridize" to either the target or the internal standard (claim 3).

Thus, it is not to which of the above said probes the said "the probe" in claim 30 is referring.

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection

is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

'103

15. Claims 1, 6 and 7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 5, 6, 11, and 12 of U.S. Patent No. 6,924,103 (8/2/2005). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed invention in the '103 patent read on the instant claimed invention.

The '103 patent claims in Claim 1:

"1. A DNA array substrate for screening variation in a portion of a nucleic acid comprising: a first group of probes, each probe having a base sequence that hybridizes with a wild-type sequence of the portion to give a strong signal, and a second group of probes, each probe having a base sequence that is expected to hybridize with a gene variant but not with the wild-type sequence to give a strong signal; wherein each probe is fixed as a separate probe spot on a substrate to form at least two separate regions of probe spots selected from: a first region containing probes of the first group, a second region containing probes of the second group, each of which provides a weaker signal than the probes of the first region on reaction with the wild-type sequence, and a third region containing probes of the second group, each of which provides no signal on reaction with the wild-type sequence, wherein the probe spots are grouped such that each one of the regions contains probes not found in other regions." (emphasis added)

The "substrate of claimed in the '103 patent reads on the array and the "substrate" of the instant **clm 1**.

The "first group of probes" and the "second group of probes" read on the "nucleic acid probes" for the "target" and the "internal standard nucleic acids" of the instant **clm 1**, because the instant specification broadly defines the term "internal standard" to by almost any known nucleic acids. (The specification of the instant application discloses the internal standard probe as "a probe for detecting an internal standard nucleic acid to be used to assist quantitative determination of a target nucleic acid," and the internal standard nucleic acid as "a nucleic acid of a known base sequence" (page 12 of the specification)).

As discussed above, the instant **clm 1** also recite various intended uses of the instant claimed microarray. Although the '103 patent does not specifically claim the intended use recitations as claimed in the instant **clm 1**, the "DNA array substrate" claimed in '103 (claim 1) appears to be structurally the same as the instantly claimed array without evidence to the contrary.

Similarly, claims 11 and 12 of the '103 patent also reads on the instant claimed array. The '103 patent claims the following in Claims 11 and 12:

"11. An array substrate for determining the presence or absence of a target nucleic acid in a sample, the array substrate comprising: a substrate; probe molecules; and a plurality of spots of probe molecules arranged on the substrate in an array form, wherein the probe molecules are the same in one probe spot and different between probe spots, and the probe spots are divided into plural regions, grouped such that each region contains probe molecules not found in other regions, and each region corresponds to one of target nucleic acids different in their sequence."

"12. An array substrate for determining the presence of at least one of a first target nucleic acid and a second target nucleic acid in a sample, the array substrate comprising: a substrate; probe molecules; and a plurality of spots of probes arranged on the substrate in an array form, wherein the probe molecules are the same in one probe spot and different between probe spots, grouped such that each region contains probes not found in other regions, and the probe spots are grouped into groups of at least two or more probe spots, the first group is expected to give a stronger integral signal intensity in hybridization with a first target nucleic acid than with a second target nucleic acid, and the second group is expected to give a stronger integral signal intensity in hybridization with the second target nucleic acid than with the first target nucleic acid."

The claims 11 and 12 of the '103 patent read on the array of the instant claim 1, which appear to have the same structural elements.

The probes of the '103 patent also read on the "synthetic nucleic acids" of the instant **clm 6** because the probes of '103 patent are immobilized on a substrate (i.e. not naturally occurring).

The '103 patent also claim probes with length 8 to 30 as recited in claims 5 and 6, which read on the instant **clm 7**.

'420

16. Claims 1 and 6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 52 and 5-7 of copending Application No. 09/764,420 (US 20030198952; hereinafter referred to as the '420 application). Although the conflicting claims are not identical, they are not patentably distinct from each other because the

claimed invention in the '420 application read on the instant claimed invention. The claims of the '420 are relied upon as filed on 10/31/07, which are the current pending claims as of the date of the instant office action.

The '420 application claims in claim 52:

"A probe array comprising a substrate; spots for mutually independent probes immobilized as a matrix on a surface of the substrate, each of said mutually independent probes having no labeling material and being capable of specifically attaching to a target substrate..."

The '420 application claims in claims 5-7:

"at least one of said mutually independent probes is a single-stranded nucleic acid", "DNA", or "RNA", respectively.

The claims 52 and 5-7 of the '420 application read on the instant claimed invention as recited in **clm 1**, because the instant specification broadly defines the term "internal standard" to by almost any known nucleic acids.

The probes of the '420 application also read on the "synthetic nucleic acids" of the instant **clm 6** because the probes of '420 application are immobilized on a substrate (i.e. not naturally occurring).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

'972

17. Claims 1 and 6 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 224, 226, 227 and 242 of copending Application No. 09/951,972 (US 20020146715; hereinafter referred to as the '972 application). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed invention in the '972 application read on the instant claimed invention. The claims of the '972 are relied upon as filed on 7/25/07, which are the current pending claims as of the date of the instant office action.

The '972 application claims in claim 224:

"A probe array comprising a solid support having a surface on which at least a spot is arranged; a plurality of single-stranded nucleic acid probes arranged in the spot..."

The '972 application claims in claims 226- and 227:

"probes are single-stranded DNA probes", or "RNA probes", respectively.

The '972 application claims in claim 242:

"at least two spots... a plurality of first single-stranded nucleic acid probes... a plurality of second single-stranded nucleic acid probes..."

The claims 224, 226, 227 and 242 of the '972 application read on the instant claimed invention as recited in **clm 1**, because the instant specification broadly defines the term "internal standard" to by almost any known nucleic acids.

The probes of the '972 application also read on the "synthetic nucleic acids" of the instant **clm 6** because the probes of '972 application are immobilized on a substrate (i.e. not naturally occurring).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Liu whose telephone number is 571-272-5539. The examiner can normally be reached on M-F 9am-3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Schultz can be reached at 571-272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sue Liu/
Patent Examiner, AU 1639
11/21/07